

Manuel de Landa

## An Interview with Manuel de Landa

with Konrad Becker and Miss M. at VirtualFutures, Warwick 96

**Miss M.:** What are your projects and general interests?

**Manuel de Landa:** Generally, I consider myself a philosopher, although I don't have any credentials, I'm more of a street philosopher. I am very interested in the Internet because it is an international network of computers which organized itself. A very good example of what processes of self-organization that is a very complex structure that emerged pretty much spontaneously out of the activities of many different people, each one trying to do something, but overall effect wasn't intended or planned by anyone. So as a philosopher, I am interested in all kinds of phenomena of self-organization, from the wind patterns that have regulated human life for a long time, like the monsoon or tradewinds which are self-organized winds, to the self-organizing patterns inside our bodies, to the self-organizing processes in the economy, to the self-organizing process that created the Internet. So that is my general philosophy and I am interested in the Internet because it is a very concrete example of what I am talking about.

**Miss M.:** You are presenting a concept which is not quite standard, that of markets and anti-markets. Could you explain that a little bit?

**Manuel de Landa:** The reason why the concept of self-organization is not very well known is because it is only about 30 or so years old. It caused a great revolution in science in very different disciplines like physics, chemistry and the dust is just starting to sell and so we are starting to see what the consequences of this revelation will be for human societies. One of the areas that will be influenced, in fact, that is already being influenced is economics because what we are talking about is here is order that has come out not because someone planned it, because someone commanded it to its existence. We tend to think that everything about human society which has a certain amount of order as being the result of someone planning it. For instance, the city of Versailles was perfectly planned up to the last little detail by Louis XIV and his ministers, and that is our image of what human society is. That everything is on purpose. There are collective actions and consequences which are unintended, and whatever order there is in those collective consequences that no one planned is self-organizing. The clearest example of that is markets. Let's understand them to have a very concrete image: peasant or small-town markets, a place in town where everybody goes and brings their stuff to sell or goes there to buy something, and it meets every week in a certain part of a town and it comes apart and then meets again the following week. In those very specific places, everybody shows up and everybody shows up with their intentions: I go there with the intention to buy, or I go there with the intention to sell. So a lot of what happens is planned, is intentional, but the overall effect, for instance the prices that every particular commodity happens to go by is unintended. In a real market, no one actually sets the price. There is no one buyer or seller who says, "I want this to be the price of this." No one commands the price, prices set themselves. That's what's interesting about markets, that they indeed provide you with a coordination mechanism with coordinating demand and supply that does not need a central decider, does not need a centralized agency that does decision-making. Out of this centralized decision making order comes out.

This is not a new idea, of course. Adam Smith, at the end of the eighteenth century, came up with the idea of „The Invisible Hand" which was supposed to explain how markets are organized. My point of view is those theories are obsolete, that indeed, only with the new conceptual technology, that the new concepts of self-organization that have developed in the last thirty years can we understand how markets actually work. So that is one way in which these new theories will affect our lives, allowing us to understand better how economies work. On the other hand, another problem with original Adam Smith idea was not so much that it was too simple, but that it applied the term „markets, to things that were not self-organized. All the way back to Venice in the fourteenth century, Florence in the fifteenth, Amsterdam in the eighteenth, London in the nineteenth, in other words, throughout European history, beside these spontaneous coordinated markets, there have been large wholesalers, large banks or foreign trade companies or stock markets that are not self-regulated, these are organizations in which instead of prices self-regulating it, they had commands. Everything is planned from the top and more or less executed according to planned, everything is more or less intended. There is very little self-organization going on at all. And indeed, these large wholesalers, these large merchants, large bankers and so on, made the gigantic profits they made and they became capitalist thanks to the fact that they were not obeying obeying demand and supply, they were manipulating demand and supply. For example, instead of the peasant that shows up to the market to sell a certain amount of corn, here you have a wholesaler with a huge warehouse where he stores all the corn he can. If the prices are too low, he can always withdraw certain amounts from the market, put them in the warehouse, and artificially make the prices go up. When the prices go up, he then sells the rest of the corn at these high prices and he makes a lot of money. But, of course, he is manipulating demand and supply. He is not being governed by these anonymous forces. He is not being subject to self-organization; he is organizing everything in a planned cunning way. And so, because economists use the word „market" to describe both, that is one of the main confusions I see in contemporary thought.

We need another word to describe these organizations that are large enough to manipulate markets. A word has been suggested by historian Fernand Braudel and it is a very simple one: „anti-market." Why? Because they manipulate markets. And so today, in the United States, there is a very strong political movement, mostly by the right wing, and Newt Gingrich is perhaps the most well known politician in this regards, who are trying, as they say, shrink the size of the government, let market forces have more room to operate. But, of course, translated into the terms we've just introduced, what they really want to do is let anti-market forces run wild. They don't really want small producers and small manufacturers and bakers and printers and mom-and-pop shops to have more room to manoeuvre and make money. They want national and international corporations to have more room to manoeuvre. They want to shrink government so that there are less regulations to keep international and national corporations from doing what they want. But if you go and study one of these corporations, rather than looking like a market, they are like mini-Soviet Unions. I mean, everything is planned in these corporations. The managerial hierarchies are exactly like the hierarchies in the Soviet Union: they planned everything, prices play a very small role and most of the organization is done via command.

Now, we used to call the Soviet Union a „command economy," we still call China a command economy. Well, international corporations and national corporations are indeed command economies. They have very little to do with prices. The past they did have something to do with prices, because either their suppliers or distributors were little guys. They had to deal with prices one way or another. But since the nineteenth century, at least in the United States and I'm sure in Europe, a lot of organizations had been internalizing: buying their suppliers and their distributors and making them part of themselves, kind of eating them and digesting them and incorporating them into their own tissue. The more they do that, the more they internalize these little markets, the less will prices play a role in their coordination, the more the commands play a role. I guess a good image for this is that the United States is far from being a free enterprise economy, it is an economy run by multiplicities of little Soviet Unions.

**Miss M.:** Coming back to the Internet, how would you apply that concept to the Internet?

**Manuel de Landa:** Well, the Internet, precisely because it is a self-organizing structure, benefits in the first place small producers, in this case, small producers of text, since that is pretty much the only thing you can sell now on the Internet. I mean, you can sell a few services, searching and Federal Express sort of tracking your packages and so on, but really the main commodity on the Internet right now is text and images. So the Internet by its very nature, benefits small producers of content. However, right now we are at a stage in its development for where anti-market forces are making an entry into the Internet in a big form. Not only Microsoft, not only America On-Line, not only AT&T and so on, but all kinds of corporations have their own web pages and are utilizing the web. So now you have advertising as a way of reaching consumers in a more direct way. So the Net could be changed in a few years from a self-organized entity into a planned entity. I don't have any romantic views about the Internet being able to resist all the forces of planning. Self-organizing forces can be overrun by these planned forces because they are so gigantic. The Internet serves a lot of functions, let's just talk about its economic functions. At the moment that electronic cash and cryptologically secure methods of sending credit card numbers becomes secure, becomes established, becomes standard software, then the internet is going to be a place to do business. So the question is how do we have to guide its evolution so that it ends up benefiting small producers of content instead of the people who already own the infrastructure: the telephone companies, the cable companies and so on which can also own the content-producing companies since they can always internalize them. The content-producing companies, let's say Yahoo, which is an index-producing company, even if they've emerged in a market way—as spontaneous, entrepreneurial, and small—Microsoft can buy Yahoo any time, any time they want to. They haven't bought them but they could buy them. And so the question is that Internet is not protected by this in its self-organization, it could be swallowed up anytime. So the question is what can we do—not you and me—but everybody who is involved in the Internet. The thing is that in the next few years the transactional structures will be defined—that is, what kind of transactions will happen over the Internet.

To give you a very concrete example, if the standards that are settled are such that the minimum transaction is five dollars per transaction, much like there is a minimum transaction for credit cards now, that will benefit large producers of content. The only way it will benefit small producers of content, independent freelance writers and so on, is by making the minimum transaction very very small. We need to make the infrastructure of the Internet and the software that be running these transactions be capable of tracking one-cent transactions so that the small producers of content can sell one page of their essays. So you can have your home page and people don't have to buy your whole essay in advance. They can read the first page, you can charge them one cent and if they want to buy the whole essay because they are interested, then they buy the rest. Again this is a very simple example and the minimum transaction that is allowed by the software—the standards will be decided in two or three years and they will be written in stone—this is something that matters. To benefit small producers you need to allow very small transactions. If the minimum transaction is large, you will be automatically benefiting large producers of content.

So issues like this will be decided in the next few years. Another issue that will affect the economics of the Internet and whether market or anti-market forces end up winning is the main scarce commodity on the Internet at the moment: bandwidth, the amount of information which can run through the channels. Right now, if you have a regular modem like a 14.4 modem, you know how long it takes for every web page to come into your system. It is precisely because bandwidth is scarce. It is a trickle of bits that is going through this channel so by the time you get to your computer, it takes forever to refresh the screen. For the Internet to become a place where content can be transacted as a commercial transaction, bandwidth needs to be plenty. The more bandwidth there is, the more complicated your documents can be and the more complicated the kinds of services you can offer over the Internet. Right now, the amount and the kinds of services you can offer are very limited by the bandwidth. So bandwidth is a key issue.

Now there are several forms of bringing cheap bandwidth. There is one form—telephone companies own a very large portion of the fiber-optic cables that are underneath much of the United States and large parts of Europe, too. Fiber-optics as opposed to copper cables, can transmit an enormous amount of bits, and all kinds of parallel channels at the same time. So, yes, fiber-optics is one solution to the bandwidth problem. But, now, how do we use it? One solution would be—and this was proposed by a right-wing economist—is to let gigantic telephone companies who own the fiber-optic cables to merge together and with cable companies which own the copper which goes from end of the fiber to the home. Right now, the telephone companies own one part of the thing, the cable companies own another part, and if we allow them to come together into a huge anti-market institution, they would give us cheap bandwidth. But what price? At a price that one anti-market institution would own the entire infrastructure of the Internet. That would not be good. Because at one time in the future when they would want to, they could make the Internet asymmetric—to allow more bits into your computer than you can let out. Right now the Internet is pretty much symmetric: you can consume bits but you can produce bits and that is what makes it unique, that it is a two-way system as opposed to television which is a one-way channel. The telephone companies and the cable companies could pretty much own the infrastructure of the Internet and at any point they want to, they could change it into an asymmetric design in which there are more bits coming in for you to consume—and again they transform it again into a consumer media—and very few bit go out so if you wanted to produce, you could produce but painfully.

So, obviously, that's not the right way of getting cheap bandwidth. The best way to get cheap bandwidth is for the government to force telephone companies to rent fiber-optic space to independent little companies. This is something the government is going to have to understand—that a big monopoly made up of a fusion of telephone companies and cable companies would simply become a gigantic entity that would become a powerful company which would be more powerful than the government itself. The only way to dissipate this danger is precisely by letting the small producers of content rent their own space in these fiber-optics things by forcing telephone companies to rent it out. So they still would own it but they would not control it. We would then be able to get cheap bandwidth without the danger of this one huge monolithic company owning the guts of the Internet.

**Miss M.:** But looking at the situation now, we are already confronted with gigantic monopolies on the Internet. One example, Microsoft, who are now developing their own Internet browser, their own web browser, and Netscape, who we for some time looked at as the „good ones" because they were not Microsoft, are now becoming the „bad ones" because they are starting to monopolize as well. We already have the monopolies.

**Manuel de Landa:** Yes, absolutely. I had said in the beginning that we are at a threshold now where anti-market forces are about to enter big-time into the Internet. The question is whether all the grass-roots parts of the Internet will thrive on it, whether the mostly grass-roots network of bulletin boards or whether the different European parts of the Internet are robust enough, are strong enough to resist the attack. I do not believe that because Microsoft is extremely powerful necessarily means that it will win the war. It certainly has more chances of winning it than any one of us has, but the question is whether those areas of the Internet which were of grass-roots origins will be able to stay there and sustain the spontaneity and originality of the Net. And whether Microsoft Network will simply become kind of a fancy neighborhood like America On-Line, where they have doors to the Internet but are not really owning the Internet.

On the other hand, what could happen is that what we know as the Internet will become a sort of ghetto: it still survives but it is surrounded by the fiber-optic infrastructure of what they call the Information Highway which is owned by the Microsoft's and the MCIs. All the business and secure transactions would be conducted around there and one would be offered entry this ghetto where all the artists and bohemians are. The Internet becomes this Greenwich Village where you go for a cafe where you go to hang out the hip people, then you'd go back to where the newer fiber-optic networks are to do transactions, to do business.

The gain is not won by either side. If we could manage to force into the standards of the Internet that small transactions be allowed, it would be a victory for all of us because it would benefit small producers of content. that would not be winning the war. This is going to be one little battle at a time.

**Miss M.:** I would like to bring in Konrad Becker. You are proposing this theory of propaganda, that the Internet is a tool of propaganda. How can we merge the two things, the monopolies on one side and the propagandistic possibilities on the other side with the monopolies controlling the Internet?

**Konrad Becker:** I do see the Net as a propaganda tool, or as the controller of intellectual stimuli, in different ways and it has its origins in the military apparatus. Hypermedia as such is an invention of the military apparatus to deal with complex information structures. So we learn today that information as such is more or less a myth. „Consensual hallucination" is the generic term for it. The possibility of reaching people through networks are quite tremendous; there is lot of talk that the Third World War will be an information war. We are getting to that point that there is non-lethal warfare, that is propaganda warfare to be used through networks.

**Miss M.:** Manuel de Landa, you are an expert on warfare.

**Manuel de Landa:** I can see his point very well. Indeed, just the increase of enormous advertising you see on the Web is pointing in that direction. Again to me the key thing here is whether we keep the network symmetric or asymmetric, whether the same amount of bits can come into your computer is the same as the amount that can leave. If it becomes asymmetric, if more bits can come in than can go out, then its transformation into a propaganda tool is already a reality. If it becomes a consumer tool and big producers of content simply send you information to consume, that's it: that is propaganda, that is a means of control. It is much better than television, it is much more pointed. It is like personalized television: they know who you are, they know your tastes, they may be even able to track and make consumer profiles out of your Web surfing, therefore put you on a mailing list for very specific people to send you information.

On the other hand, if the cables and the connections are kept symmetric so that criticism can leave the terminal as propaganda comes in, then we have a fighting chance. That doesn't mean we will win the war or have utopia or anything. What we can hope for is having a fighting chance. That's what would make the game still interesting. It would make it interesting for all us critics, for social critics to be engaged if we feel we still have a fighting chance. I believe it all boils down to hardware. If the hardware remains symmetric, and again that is not a necessity--not something that will happen but could change, then we have a fighting chance because we could fight propaganda with criticism.

**Miss M.:** Konrad, do you think that being able to criticize is a remedy against propaganda?

**Konrad Becker:** Well, actually, that could be a trap as well. As Manuel de Landa explained in his lecture, criticism is part of the scheme. So it is easy to fall into that hypnotic situation where you have an oscillating paradox: on one side you have right wingers and on the other side you have left wingers and you are in the middle, totally snake-charmed. I sometimes feel that propaganda is a secretion of a higher order. It is natural for polar theoretical points to embattle themselves, which doesn't change the course of history. To find means of escape from this hypnotic lock, this propaganda lock of the informational organism or info-body would be the way to go. These heterogenic activist situation that you find in the early Internet is one of the very interesting points where there could be the window of opportunity to break the gridlock.

**Manuel de Landa:** I absolutely agree. Right now, everybody and their mothers call themselves „critical". You go to New York City bookstores and there are huge sections of bookshelves called „Critical Theory". Of course, those theories are the most uncritical in the whole world. They call themselves critical but in the end are so uncritical because they take for granted all kinds of assumptions, they don't really criticize themselves, and so forth. What I meant when I said „criticism as an antidote to propaganda" would be a new type of criticism that is much more theoretically grounded and goes beyond the fake kind of criticism, or dogmatic criticism, that we have become used to. If we criticize the Intern by simply calling it a „capitalist tool" or a „bourgeois tool". That was a standard way in which Marxists criticized things in the past, attaching „bourgeois" to everything they wanted to criticize and, bingo, you had instant criticism like you had instant coffee. Obviously, that kind of criticism is not going to do anything, and indeed has become a kind of propaganda itself. I mean, you criticize to propagandize your own idea. The question in front of us now as intellectuals is whether we've inherited so much bullshit and therefore our criticism is bound, is condemned to be ineffective, or whether we can find ways out or escape routes out of this and create a new brand of criticism that recovers its teeth, its ability to bite, its ability to intervene in reality in a more effective way. Again, it would imply a collective effort of a lot of intellectuals who are fed up with what had been labeled as criticism in the past and is nothing but dogma and repetition, and come up with a new brand of criticism that is capable of fighting propaganda.

**Konrad Becker:** The right wing idea of the „Invisible Hand" you mentioned is a good point to make. And you mentioned the „commodifiers" on the other hand. You were focusing more on the faults of the „Invisible Hand" than you were on the faults of the „commodifiers". One mistake I did mention was the trap that one could fall in. Could you please specify?

**Manuel de Landa:** We need to distinguish true criticism from false criticism, or at least criticism that more or less gets it right from criticism that is pure dogma. Belonging to the left, as I suppose we do, we are more affected by the kind of dogmatic criticism labeled as „leftist" rather than „rightist". Most people who are radicals or who are artists or who are rebels in some way would hardly ever use the term „free enterprise" to talk about the United States. We are not affected by that dogma, but we are affected by another dogma which is Marxist dogma. Going back to the distinction between markets and anti-markets, the problem with Marxist dogma is that it fails to distinguish between self-regulating economies where there is no where there is no economic power and the anti-market institutions where economic power is the center and the reason for being of those institutions. Failing to distinguish that means that, for a Marxist, the very fact that an object acquires a price, that an object goes into a market to be sold as a commodity is a bad thing. Remember that Marxists proposed that the solution to our problems is Socialism and that Socialism is a society where commands have replaced prices completely. But if I am right, that every national and international institutions are mini Soviet Unions, mini Socialisms minus the idealism, and that they replace prices with commands only on a smaller scale, then obviously Socialism is not the solution. Socialism is indeed an intensification of the trend that is enslaving us.

When the Soviet Union dissolved a few years ago, people in Holland and Czechoslovakia began talking about the transition to a market economy. Everybody was talking about how hard it was to make a transition to a market economy. But look at what they were trying to do: they weren't trying to make a transition from a planned economy to one in which many small producers dispersed. No, they were trying to make a transition to a few large enterprises which were not owned by the government anymore but were still large, run by a hierarchy of managers with everything commanded and everything planned. In other words, they were trying to imitate the United States, that is, they were trying to imitate an anti-market economy. However, because of the dogma we have inherited, we accept immediately that their intentions were to go to a market economy.

What I am trying to say is that one of the obstacles to think straight in this regard is the idea that the very entry of an object into a price system is a bad thing. When you have an object, you give it a price and sell it in a market, it becomes a commodity. The process by which an object acquires a price and enters a market is called „commodification". It really should be „commoditization" but „commodification" is a word that stuck in the Seventies. But today it has become a cliché, a thing you repeat without thinking. You believe you are criticizing the system when you say something has become commodified but, indeed, you are not saying anything, if I am right. If we are supposed to distinguish markets from anti-markets, then to say that something has become commodified doesn't even begin to say anything. We still don't know if it entered the market as a free commodity, so to speak, which will be affected by supply and demand, or if it entered the market as a manipulated commodity. When we tend to think of ideological effects of commodities, we tend to think of planned obsolescence—creating consumer products that are planned to break down so you have to buy more consumer products. Or we tend to think of tailfin designs like in the 1950's, when they weren't making innovations on cars, they just putting larger and larger tailfins. But these kind of innovations, these cosmetic innovations which aren't market innovations at all, but are anti-market commoditizations. If we were to use that term in any way that would be meaningful, it would be to refer to certain products of anti-markets which are specifically planned and designed to manipulate consumer needs. We would need to think of McDonald's burgers. The moment you have a burger war on TV between McDonald's and Burger King, or the famous cola wars between Pepsi and Coke, that is commodities in the bad sense, in the Marxist sense. Objects that have zero use value are nothing as technological innovations, they are pure cosmetics, pure simulacrum, pure consumerism. But, again, if you trace those products to their source, you will find that in a majority of cases they come from anti-markets. And if you trace every technological innovation, from the steam roller to all the little machines and procedures that were needed for the Industrial Revolution, electricity and so on, they will have almost always have come from small producers. The majority, again.

**Konrad Becker:** The subtitle of one of your essays, „The Geology of Morals," which I very much appreciated, is called „The Neo-Materialistic Interpretation". How do you interpret „Neo-Materialism"?

**Manuel de Landa:** Obviously, I put the word „neo" there to distinguish it from Marxist materialism. The only good thing that Marxism ever gave us was its materialism, the idea that we need to explain things that happen right here without appeals to God, without appeals to Platonic essences, without appeals to anything transcendental. Of course, Marxists, to the extent that they bought Hegelian dialectics, were never really true materialists since dialectic is not at all something of this world. That was the good thing about Marxism. Lenin, as much as I hate many of the things that he did, as a philosopher was not so bad. He resisted idealistic philosophies in which everything is just our perceptions or ideas. By saying that there is a material world out there, we need to take that into account, that not everything is information, that not everything is ideas, that not everything is cerebral stuff. That there is also concrete fleshy stuff that is also very important to consider.

I call it „neo-materialism" because it is a form of the old philosophy called materialism but it is new in that, by incorporating theories of self-organization, matter and energy themselves without humans and even without life are capable of generating order spontaneously. This can be seen in lava or in winds or in many phenomena in our planet. For instance, a hurricane is considered by meteorologists as a self-assembled steam roller, running things through a cycle of cold and hot, running out of energy, and it keeps its shape long enough for us to name them—we give them names, we ran out of women's so now we're giving them men's names. We give them names because they are creatures which inhabit the atmosphere. However, these are creatures that create themselves. They don't have genes, they don't have anything that tells them what to do. They are completely spontaneous creatures.

Now, neo-materialism means acknowledging that we have been neglecting matter for a long time, all the way back to Aristotle. Aristotle already separated formal causes from material causes in his classification of causes. It is a classification that has stayed with Western philosophy all the way up to the 20th century. All the way back to the Greeks, matter was seen as an inert receptacle for forms and humans came up with these forms that they imposed on this inert receptacle. This has certain class or caste origins because all the way back to the Greeks, the blacksmith, the guy who worked on matter or metals, lived outside of the city, spent all day in front of the fire, dealing with metals, and most importantly, didn't come to the agora to talk. So the citizens of Greece didn't trust the blacksmith: „He doesn't talk. He doesn't come here and blabber." They were always slaves or ex-slaves, and manual labor, even if it is crafty manual labor—be it women cooking in the kitchen or blacksmiths working with metal or folk artists creating objects—was considered a secondary activity, a lower activity. Intellectual activity was the real activity, to think with concepts. Neo-materialism means to recover the feeling that we have been neglecting these people for a long time, that there is a much more interesting form of knowledge that relates to this skill to deal with matter—in the kitchen, in the blacksmith's shop, in the carpenter's shop. To deal with representations and concepts and mental stuff is interesting, too, but is just as interesting as this direct sensual knowledge of matter.

This has a lot to do with the Internet because the people who created the personal computer—and without personal computers we would not have the Internet—were Steve Jobs and Steve Wozniak from Apple. Steve Jobs was the mental guy, and Steve Wozniak was someone who thought and spoke very little, was the blacksmith of our time, who simply had a sensual love and had a neurotic approach to chips. He collected chips, he kept chips under his bed, and he created Apple though he didn't have an engineering degree. He didn't have any formal training yet he created the first Apple II out of this sensual knowledge of electricity, of electronics and of chips and began the revolution, if it does indeed turn out to be a revolution. So sensual knowledge is not something we left in the past, in the age of craft activity. It is something that is still very much with us. If you study the history of the transistor, even though it uses some quantum theories, it uses it after the fact. If you see photographs, it is just a chunk of silicone stuff with things in it—it looks so funky, so home-made. It was home-made. These guys were tinkering with matter. They were trying to understand matter by tinkering with it instead of imposing a pre-conceived idea or form on it.

**Konrad Becker:** I agree that Aristotle has the position of a creep in history. But isn't the blacksmith traditionally associated with the position of a shaman, the one tinkering but also tinkering with concepts in a way? He was also a psychedelical expert, as far as I understand. So going back to the military complex, we had a discussion the other day where we noted that the huge American military complex is rather helpless to people who believe that if they take a bomb onto their body and go into a building, they will go straight to heaven. There is something of immaterialistic value in there on a very practical basis. On the other side, we see an immaterialization of economy as such from the basic fact that value of money is pulsed in magnetic highways through the globe. What is the other side of the materialism? Don't you think it is becoming more and more important?

**Manuel de Landa:** Absolutely. The moment in Amsterdam in the 18th century where paper money for the first time became as important as metallic money, there was a de-materialization right there. All of a sudden, money became purely information. Dollar bills now came to have value because of and effect of confidence. As long as everybody believed you could go to the bank and get your gold's worth of things, then everything worked just perfectly. So I agree with you: on top of the material layer, we have been building these virtual layers one at a time. Virtual money—we don't have to wait for e-cash—paper money is virtual money. The more knowledge becomes an input to production, has become as important as the material inputs to production—the energy, the labor, the raw materials that go in—then knowledge is probably as important as those inputs. So I completely agree with you. My point is, rather than making

matter and energy the whole thing, that they remain the basis for society. United States and Europe consumes a much greater amount of energy in the form of electricity than they've ever consumed in the past. If you go back all the way to the Industrial Revolution, the increasing consumption of energy is a steep curve and there is no end in sight. My thesis is that all these virtual layers we've built since the Industrial Revolution, precisely to the point that our energetic basis has become more and more important—we became aware of this during the 1973 oil crisis when we became aware how much our entire society depended on cheap energy, being able to buy cheap oil from the Arabs. The Arabs said, „Well, no one else is going to sell them cheap oil that cheap," there was a big crisis. If everything had become virtual already, we would not have had that crisis. It would have been very easy to switch to another energy source, or use our knowledge to do something else. The point of the matter is we are much more primitive than we think we are, much more material. This translates immediately to the fact that, for all the virtual stuff that happens on the Internet, the web pages and links and so on, there is still all the hardware that forms the basis of it, all of which runs on electricity. In other words, there is this material basis that is so humble that we take it for granted, because it is not the exciting part. The exciting part is the virtual level. But we shouldn't take it for granted because if our philosophy tomorrow is to get it right, we need to always acknowledge this material basis on which we operate.

The token material entity of current textual theory—just to back track a bit—the '60's in France was the great period of virtualization. Everything became text. Kristeva and Derrida and so on we just talking about intertextuality. Even the weather doesn't exist, it is what we make of it, what we interpret of it. Everything became virtual in a way. Baudrillard says that everything is just simulacra, just layers of neon signs on top of layers of television images on top of layers of film images and more and more virtual stuff. The computer games and simulations. We need an antidote to that. We need to acknowledge that we've built these layers of virtuality and that they are real, they are real virtual. They might not be actual but they are real still but that all of them are running on top of a material basis that ultimately informs the source of power and the basis of society.

**Konrad Becker:** What you were proposing in „The Geology of Morals" is that if you extend that metaphor further, you could go into dangerous waters. There have been proposals along that line from various corners, from the Gaia hypothesis to the bio-organism theory. Is there a certain point where you would say you wouldn't want it to be interpreted in this way?

**Manuel de Landa:** Absolutely. Don't call me Gaia. The Gaia hypothesis is a very interesting point. I am anti-Gaia in that it is such a romanticization of our planet, but beside the romantic aspect, which isn't necessarily that bad because New Age people are at least motivated for something, trying to save Gaia. Perhaps that will have an impact on the ecological movement by recruiting more people. We have very serious ecological problems, all of them are material, none of which are virtual, all of which have to do with the fact that we never learned how to deal with our material fluxes. We know how to deal with the fluxes that come in, the water that comes in, the electricity that comes in, but all the residues are all the garbage and all the material fluxes that go out simply just go out. We send all this carbon dioxide into the atmosphere, and we pollute our seas and pollute our rivers because we are ignoring certain material fluxes that are still operating of our material world. So the Gaia hypothesis, as romantic as it might be to the extent that it inspires a few New Age people to become more actively involved in environmental things, it might be a good thing.

Philosophically, it is a terrible mistake. It is a terrible mistake precisely in the neo-materialist sense because it takes the metaphor of the organism, it sees life, living flesh as the most magical thing that happened on this planet. This is of course a chauvinism, a kind of organic chauvinism on our part. It takes the metaphor of the organism and applies it to the whole planet. Now the whole planet is alive, that's what Gaia is. Not only do you call it an organism, you also give a goddess name just to make sure you are ridiculous enough. The way out of this is to think that the planet is indeed something special, but it's what Deleuze and Guattari called a body without organs, which is the exact opposite of an organism. It is a cauldron or receptacle of non-organic life, a body without organs. Because it can be alive in the sense of being creative and generating order without having genes or having organs or being an organism. In my view, the very fact that the atmosphere connected with the hydrosphere can generate things like hurricanes and cyclones and all kinds of self-organizing entities means that indeed the planet, even before living creatures appeared, was already a body without organs, a cauldron of creativity, a receptacle of spontaneously emerging order.

Compared to the atmosphere, compared to the freedom of a hurricane, an organism, even though it is more complex and it lasts much longer, at the same time has more command components than self-organizing components. The command components come from genes. Your genes are the one that tell your flesh, „You are human, you are not a dog, you're not a monkey, you're human and your shape is like this. You don't have six fingers or seven fingers, you have five fingers. If you have six fingers, you're a freak, you belong in a circus, you're not a real human."

Genes are what keeps this flesh that's self-organizing and full of non-organic life from within in order. And the genes are, of course, completely hierarchical, the genes within the cell obey the cells within the tissue, obey the genes that make up the organs, obey the genes that make up the organism. We are like perfectly little hierarchical creatures which the command component is much higher than the self-organizing one, whereas the atmosphere is much freer, is really pure self-organization without any command component at all because there are not even genes there that tell them what to do. And so to call the planet Gaia, to make it an organism, besides being romantic and kind of cheesy, is a philosophical mistake from the strictly materialist point of view.

**Konrad Becker:** Yes, but don't you think that the boundaries between life and animate and inanimate matter is getting fuzzy and the famous virus is a borderline product where we are not sure if it is life?

**Manuel de Landa:** Absolutely. The lines are fuzzy but only when you compare viruses with, let's say, crystals. Crystals also grow by replication, viruses also grow by replication. In a way, a virus is just a fancy crystal. But when you compare creatures farther away from the border, say, what we call higher animals like ourselves, you can see the difference with hurricanes. The command component in the mixture increases with evolution and the higher you get in the evolutionary tree the command component increases. We call it „higher" but we are not any higher than bacteria, we just happen to believe we are special. So to use the organism as a metaphor is wrong.

**Konrad Becker:** But would you consider the possibility of non-organic life?

**Manuel de Landa:** Yes, I believe a hurricane represents a form of non-organic life. It lasts long enough for us to give it a name. It assembles itself. It's not living in the sense that it doesn't breathe. But to ask it to breathe would be to impose an organic constraint on it. The thing doesn't have to breathe, it doesn't have to have a pulse. Even then, certain winds do breathe, say the monsoon, the wind that is most prevalent on the southern coast of Asia. It is a perfectly rhythmic creature: it blows in one direction for six months of the year, blows in the other direction for another six months, and every sea-faring people in Asia that made a living from the sea had to live with the rhythm of the monsoon. The monsoon gave those cultures their rhythm. If you want to go that way, well, you have to go that way in the summer, then you get there and you have to wait for the winter to come back. You have to plan your life to that rhythm. So the monsoon is a self-organizing entity, there is no command component at all, it is non-organic life, and it is a pulsing non-organic life. It even has the beat that we tend to associate without hearts.

As it turns out, when the theorists of self-organization studied cardiac tissue, they discovered that you can take the cells of the heart, put them in a little flat plate and they'll keep beating. In other words, what is making the heart beat is : similar process as to what is making the monsoon beat. It has very little to do with genes, that the flesh itself can beat, that non-organic life has this breathing rhythm all to itself.

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